

Canada



CETC CANMET ENERGY TECHNOLOGY CENTRE

ADVANCED CONTROLS, SIMULATION AND FMISSIONS



SIMULATION AND DESIGN

CLEAN ENERGY TECHNOLOGIES

The CANMET Energy Technology Centre (CETC-Ottawa) is a centre of excellence for the simulation and design of combustion and energy systems.

Projects focus on:

- Analysis of novel energy cycles
- Development of heat and mass balance flowsheets
- Optimization of energy efficiency
- Reduced emissions
- Process design development
- Control strategy development



Direct Reduced Iron (DRI) Process - novel iron making technology

Capabilities And Services

The Advanced Controls group at CETC-Ottawa consists of scientists and engineers with expertise in:

- **HYSYS** simulation
- Aspen simulation
- Boiler and furnace modeling
- Process analysis
- Combustion and heat transfer analysis
- Process optimization
- Identification of technical opportunities and economic impact
- Consultation and third party evaluation

Existing Generic Models

CETC-Ottawa has existing models for each of the following:

- Lower furnace model
 - Sliced plug flow furnace model for analysis of boiler furnace sections and other industrial furnaces
 - Available as a HYSYS extension
 - Can be used with oxy-fuel as well as airfired applications
- Upper furnace boiler model
 - Model for reheater, superheater and economizer sections within a boiler
 - Available as a HYSYS extension
 - Can be used with oxy-fuel as well as airfired applications





HYSYS Steam Generator Model - Advanced concept for oxy-fuel fired electricity generation

- Regenerative air heater model Models the complete heat transfer of regenerative air heaters such as
 - Ljungstrom air heaters used in the boiler systems
 - Can be used with oxy-fuel as well as airfired applications
- Combustion models
 - Analysis of solid, liquid and gaseous fuels
- Thermal efficiency models
 - For boilers and furnaces
- Steam property tables
- Combined space and water heating system
- G2 model for transient analysis of combined space and water heating furnaces

Recent Projects

- Modeling of oxy-fuel retrofits to existing steam generation systems
- Modeling of air fired performance of boiler systems
- Direct reduced iron (DRI) process development
- Design of combined space and water heating systems
- On-line boiler simulation for detecting cleanliness

Your Invitation to Work with Us

We are interested in collaborating with you. Please contact the Business Office to discuss your particular needs.

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For Further Information Please Contact:

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